

Pristimantis repens (LYNCH, 1984),
a frog not restricted to the Páramo

Pristimantis repens (LYNCH, 1984), was described from Volcán Gáleras (the type locality) and adjacent localities above 3150 m of altitude, in the Department of Nariño, Colombia (LYNCH 1984, 2004). This species was assigned originally to the genus *Eleutherodactylus* by LYNCH, but according to the recent study of HEINICKE et al. (2007), the majority of South American species of this genus are included in the genus *Pristimantis* in the family Leptodactylidae. Other taxonomic schemes, like FROST et al. (2006), included the genus *Eleutherodactylus* in the family Brachycephalidae. Here, we follow the taxonomy proposed by HEINICKE et al. (2007), but with the genus *Pristimantis* maintained within the family Brachycephalidae according to FROST (2007).

LYNCH & SUÁREZ-MAYORGA (2002), based only on the data presented by LYNCH (1984), classified *P. repens* as an endemic species to the Páramo ecosystem in Colombia, an environment above 3200 m to 4100 m, dominated by forests of *Polylepis*, shrubs of Asteraceae and Ericaceae, stem-rosettes (“frailejones”) of *Espeletia*, and tussocks of *Calamagrostis* (“pajonales”) (RANGEL-CH. 2000). At the moment of this classification, the species was known from localities that, according to CUATRECASAS (1958) and RANGEL-CH. (2000), fall within the Páramo ecosystem.

In 2006, we reported a new locality for *P. repens* located 60 km NE of Volcán Gáleras in the Reserva Natural Santa Helena (ca. 01°31'N, 76°56'W; ca. 3278 m elevation), Corregimiento La Estancia, La Cruz municipality, Nariño Department (ROJAS-RIVERA 2006; ROJAS-R. & GUTIÉRREZ-C. 2006). While this elevation should correspond to typical Páramo habitat, sensu CUATRECASAS (1958) and RANGEL-CH. (2000), a floristic study in Santa Helena (MUNAR et al. 2004) showed that the predominant vegetation there does not correspond to Páramo; on the contrary, the area supports trees such as *Ocotea*, *Oreopanax* and *Weinmannia* (especially *W. mariquitae*) more characteristic of high Andean forests (RANGEL-CH. 2000).

The occurrence of this floral community at this altitude is likely due to the presence of a condensation belt of humid air masses below 3400 m, which are promoting a high vegetative diversity and complexity in Santa Helena; and displacing the páramo toward altitudes between 3400 and 4000 m (NARVÁEZ 1998). At 3400 m of altitude, the high-Andean forest is bound with forest of *Polylepis*, typical shrubs in the Department of Nariño (RANGEL-CH. 2000). Then, it is clear that the transition between high-Andean forest and páramo is not only depending on the elevation and vegetation criteria, but is also influenced by local climatic factors.

Consequently, we consider that *P. repens* is not a species restricted to the páramo ecosystems because it also occurs in plant associations of high-Andean forest, in the same way that *P. buckleyi* (BOULENGER, 1882), *P. elegans* (PETERS, 1863), *P. myersi* (GOIN & COCHRAN, 1963), and *Hyloxalus subpunctatus* (COPE, 1899) do, as LYNCH & SUÁREZ-MAYORGA (2002) mentioned.

ACKNOWLEDGMENTS: Thanks to Diana MUNAR, Sandra DIAZ, Belisario CEPEDA, and Maria Helena SOLARTE for clarifying the interpretation of the vegetation types present in the area of study. MAR thanks to Paola ORTEGA, Alberto CASTRO, Francisco RIVADENEIRA, and to the local people for their assistance in the field. Thanks to Juan Manuel GUAYASAMIN and Brian C. BOCK for comments that improved this manuscript. This work was funded by the Proyecto Biomacizo (National Natural Parks System of Colombia and the United Nations Developing Program – UNDP).

REFERENCES: CUATRECASAS, J. (1958): Aspectos de la vegetación natural de Colombia.- Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales, Bogotá, 10: 221–268. FROST, D. R. (2007): Amphibian species of the world: an online reference. Version 5.1 [10 October 2007]. New York. < research.amnh.org/herpetology/amphibia/index.php > (accessed 15 December 2007). FROST, D. R. & GRANT, T. & FAIVOVICH, J. & BAIN, R. H. & HAAS, A. & HADDAD, C. F. B. & DE SA, R. O. & CHANNING, A. & WILKINSON, M. & DONNELLAN, S. C. & RAXWORTHY, C. J. & CAMPBELL, J. A. & BLOTTO, B. L. & MOLER, P. & DREWES, R. C. & NUSSBAUM, R. A. & LYNCH, J. D. & GREEN, D. M. & WHEELER, W. C. (2006): The amphibian tree of life.- Bulletin of the American Museum of Natural History, New York; 297: 1-370. HEINICKE, M. P. & DUELLMAN, W. E. & HEDGES, S. B. (2007): Major Caribbean and Central American frog faunas originated by ancient oceanic dispersal.- Proceedings of the National Academy of Sciences, USA, Washington; 104: 10092-10097. LUTEYN, J. L. (2005): Introducción al ecosistema de páramo; pp. 37-99. In: KAPPELLE, M. & HORN, S. P. (eds.): Páramos de Costa Rica; Costa Rica (InBio). LYNCH, J. D. (1984): A new

species of *Eleutherodactylus* (Amphibia: Anura: Leptodactylidae) from southern Andean Colombia.- Herpetologica, Emporia, Kansas; 40: 234–237. LYNCH, J. D. & SUÁREZ-MAYORGA, A. M. (2002): Análisis biogeográfico de los anfibios paramunos. Caldasia, Bogotá; 24: 471–480. MUNAR, D. & CEBALLOS, C. & CASAS, C. & RAMÍREZ, B. (2004): Caracterización florística y fisonómica de un área boscosa de la Reserva de Santa Helena. Municipio de La Cruz, Nariño, Colombia. Estación de Estudio de Biodiversidad del complejo volcánico Doña Juana. Cordillera Centro-Oriental del Complejo Volcánico Doña Juana. Informe Proyecto Conservación de la Biodiversidad del Macizo Colombiano; Popayán, Colombia (Parques Nacionales de Colombia-Programa para el Desarrollo de las Naciones Unidas, Herbario Universidad del Cauca). NARVAEZ, G. (1998): Estudio geográfico del Volcán Doña Juana y su área adyacente. Una perspectiva ambiental. Trabajo de grado, Bogotá, Colombia (Departamento de Geografía, Universidad Nacional de Colombia). RANGEL-CH, J. O. (2000): La región paramuna y franja aledaña en Colombia; pp. 1-23. In: RANGEL-CH, J. O. (ed.): Colombia, diversidad biótica III: la región de vida paramuna; Bogotá, Colombia (Instituto de Ciencias Naturales, Universidad Nacional de Colombia). ROJAS-RIVERA, M. A. (2006): Diversidad y segregación espacial en un ensamble de anuros en tres coberturas vegetales en la Reserva Santa Helena, Departamento de Nariño, Colombia. Trabajo de grado, Pasto, Colombia (Departamento de Biología, Universidad de Nariño). ROJAS-R., M. A. & GUTIÉRREZ-C, P. D. (2006): Amphibia, Anura, Brachycephalidae, *Eleutherodactylus repens*: distribution extension.- Check List, São Paulo; 2: 32.

KEY WORDS: Amphibia, Anura, Eleutherodactylinae, *Pristimantis repens*, distribution, ecology, high-Andean forests, páramo

SUBMITTED: August 27, 2007

AUTHORS: M. Alejandra ROJAS-R., Grupo de Ecología en Anfibios y Reptiles de Caldas, Departamento de Ciencias Biológicas, Universidad de Caldas, Calle 65 # 26-10, A. A. 275, Manizales, Colombia < alejandra.rojasrivera@gmail.com >; Paul D. GUTIÉRREZ-C., Grupo de Ecología en Anfibios y Reptiles de Caldas, Departamento de Ciencias Biológicas, Universidad de Caldas, Calle 65 # 26-10, A. A. 275, Manizales, Colombia and Grupo Herpetológico de Antioquia, Instituto de Biología, Universidad de Antioquia, oficina 7-106, A. A. 1226, Medellín, Colombia. < pdgutierrez2@yahoo.com >